Carbon Leakage Provisions Proposed in US Federal Climate Legislation

SYMPOSIUM ON UNDERSTANDING THE VALUE OF BENCHMARKING

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Recent US Federal Policy History

- *Jun. 2008*, **Boxer-Lieberman-Warner**
  - letter from 10 Senate Democrats opposed bill, citing competitiveness concerns ("Gang of 10")
- *Sep. 2008*, **Inslee-Doyle** (HR 7146; HR 1759)
- *Jun. 2009*, **Waxman-Markey** (HR 2454)
  - passed US House (219-212)
- *Nov. 2009*, **Kerry-Boxer** (S. 1733)
  - passed Senate Committee (no Republicans present)
- *Dec. 2009*, **Interagency Report**
  - Responding to request from Sen. Bayh and colleagues
- *May 2010*, **Kerry-Lieberman**
  - Discussion-draft made public

Leakage Prevention & Transition Assistance

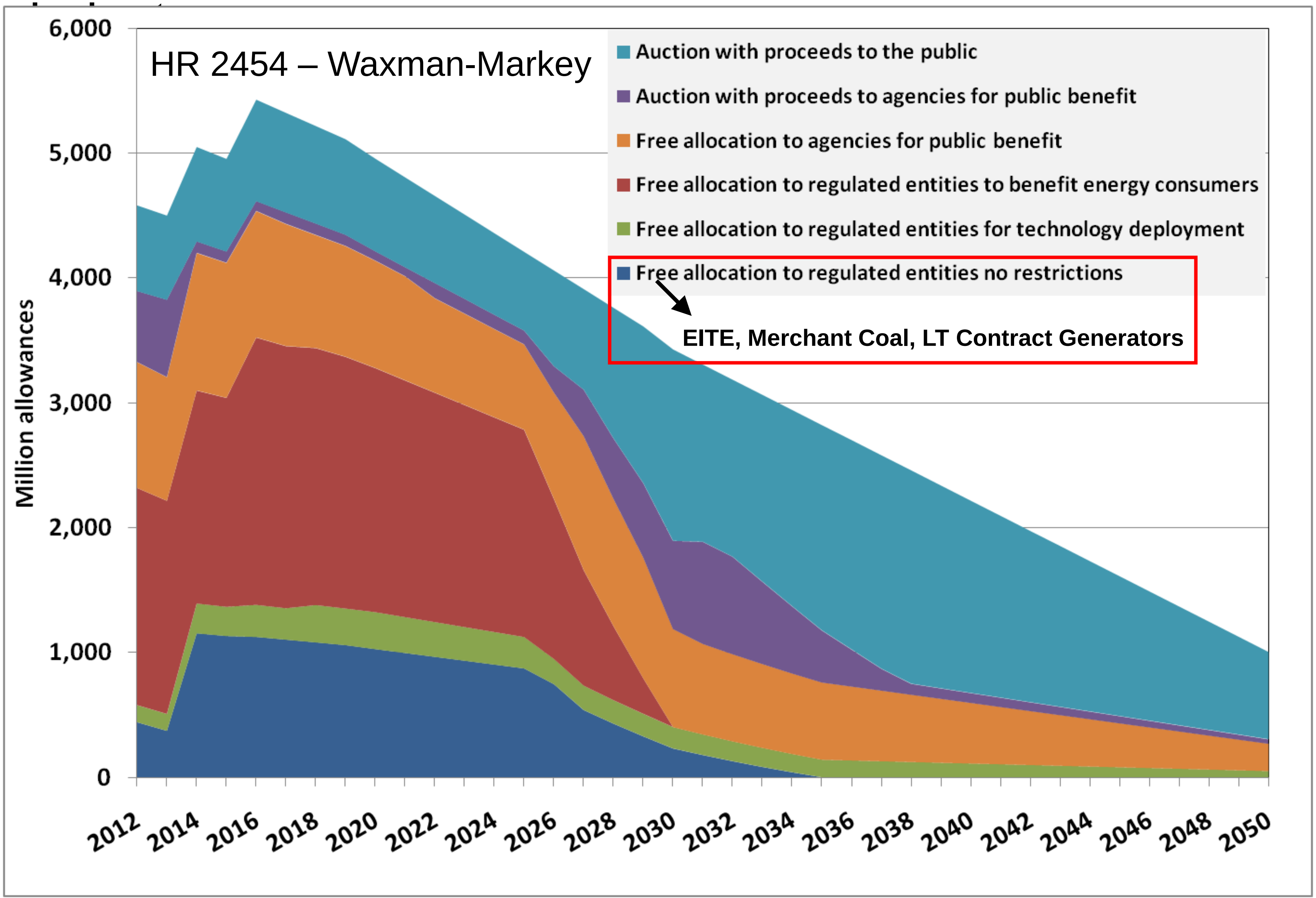
For *Energy-Intensive Trade Exposed* Industries:

- Allowance rebates for direct and indirect carbon costs
  - Up to 13.5% of the cap through 2025 (2% in 2012 & 2013)
  - Phased out by 2035 (w/ presidential discretion to persist)
- Border measures for EITEs in 2020

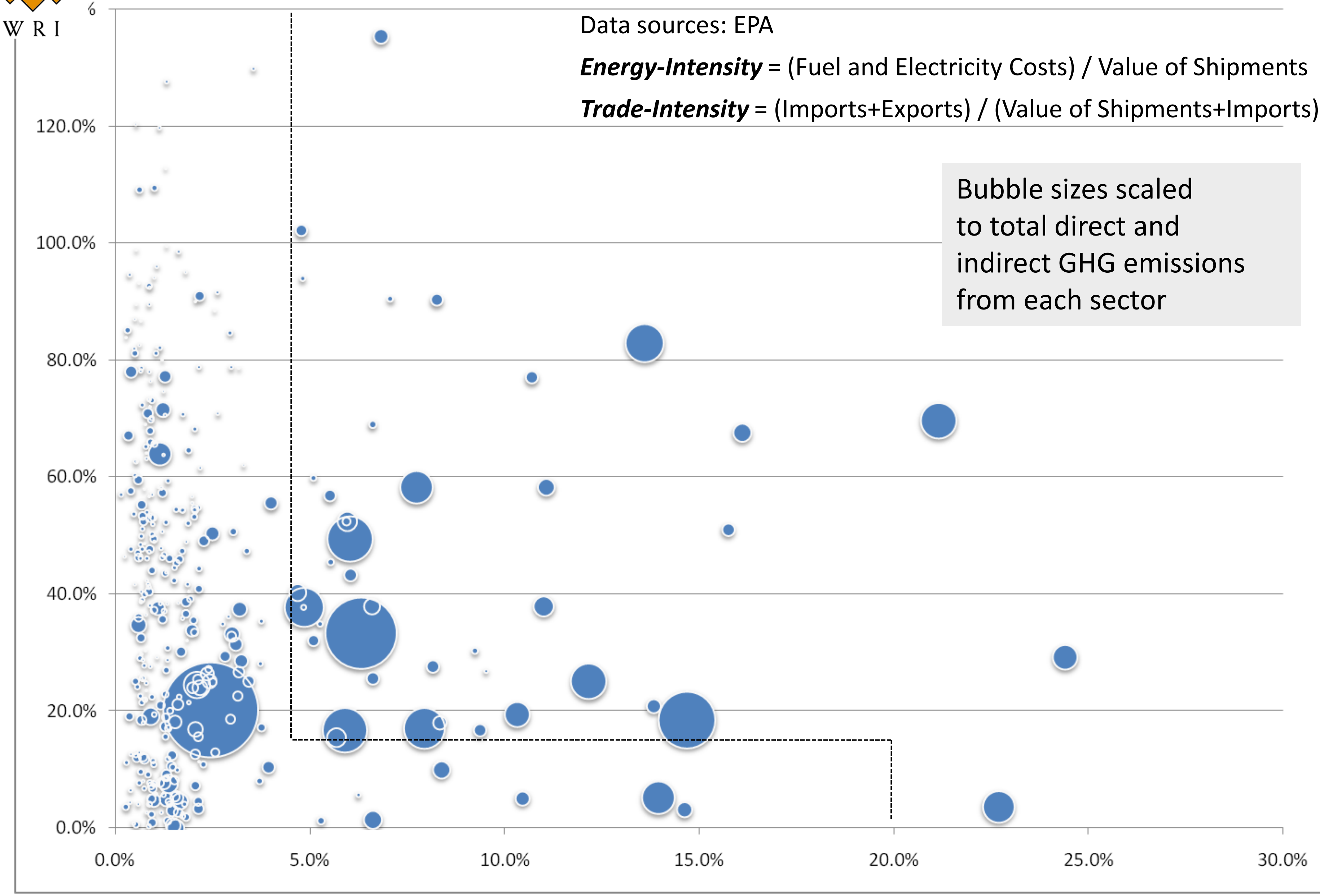
Other Assistance (through 2025, phased out by 2030):

- 40% of allowances to electric & nat. gas LDCs
  - "exclusively for the benefit of retail ratepayers"
  - >10% for industrial customers, including EITEs

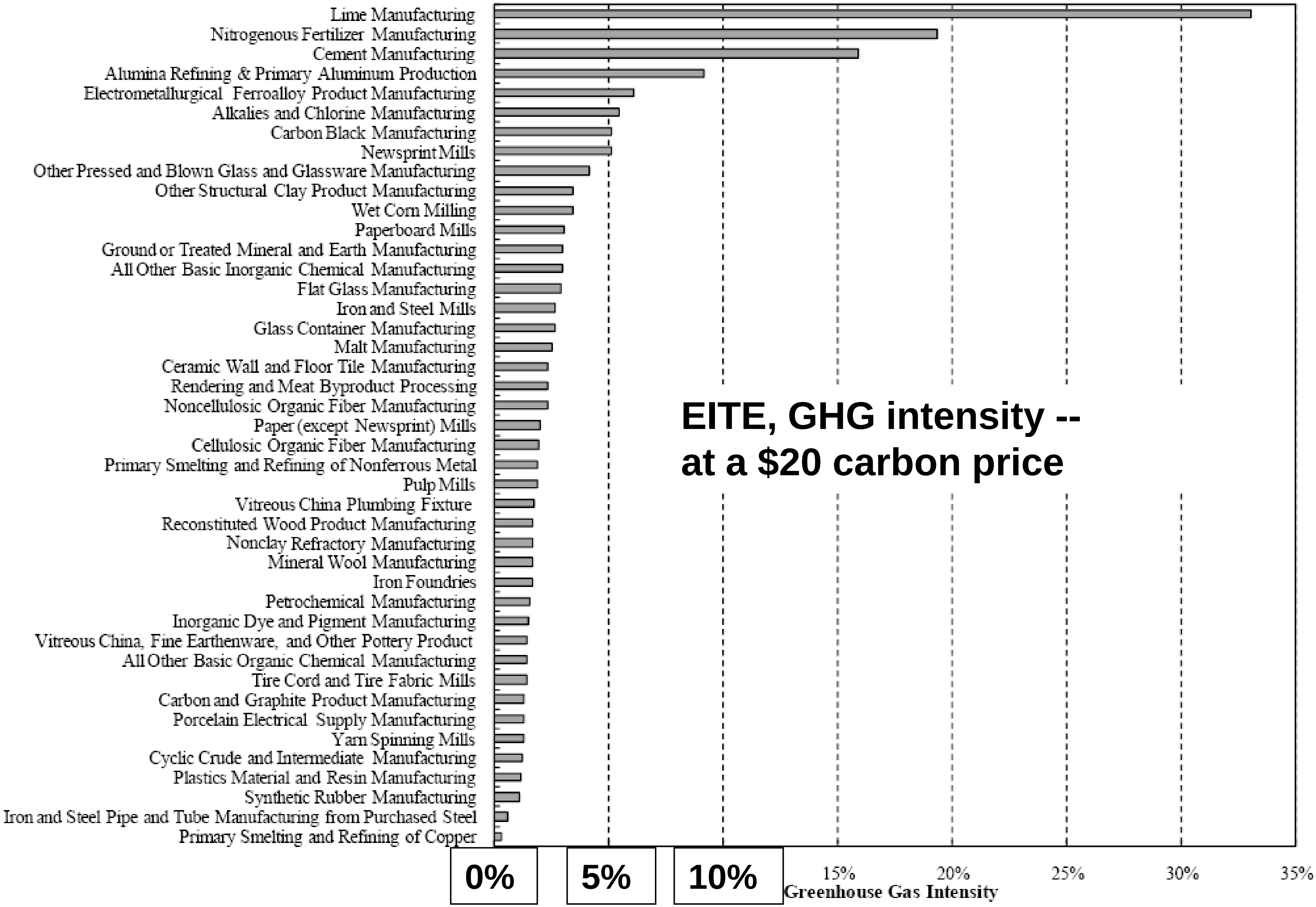
- Allowance value is targeted at public programs, consumer assistance and "transition assistance" for:



EITE Eligibility – Sectors by NAICS Code (6-digit level)



H.R. 2454's Greenhouse Gas Intensity Measure for the "Presumptively Eligible" Manufacturing Industries



Note: The H.R. 2454 greenhouse gas intensity measure is calculated by multiplying a sector's direct emissions and indirect emissions associated with electricity consumption by an allowance price of $20 per ton, and dividing by the sector's value of shipments.

Source: EPA analysis.

Which Costs Should be Compensated?

- Direct compliance costs
- Indirect compliance costs
  - Electricity
  - Purchased Steam

- Indirect, indirect

  (Costs of underlying climate policy)
  - Cost of utility investments in low carbon resources
  - Market dynamics that (may) cause fuel-switching and higher nat. gas prices

Output-Based Allocation Method and Level

- Allowances would be allocated to industry on a production *Output basis,* *based on:*
  - Each **facility's output** from 2 and 3 years prior

    and
  - 4-year **sector average,** updating benchmark
    - *The big (important) question is ability to pass-through costs (this assumes zero ability to pass-through)*
    - *HR 1759 included more stringent benchmark:*

      85% "allocation factor"

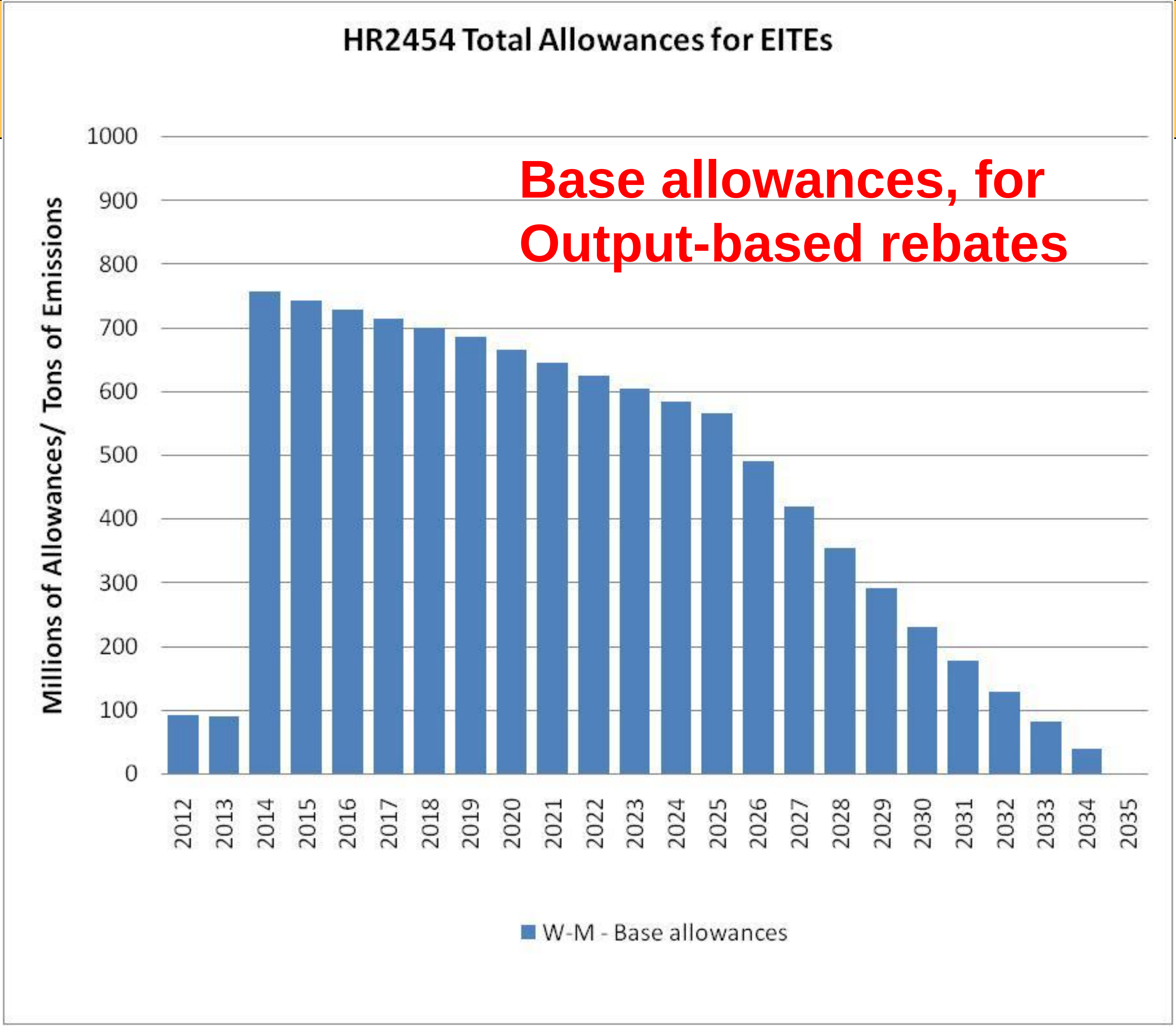
But how would the Benchmarks work?

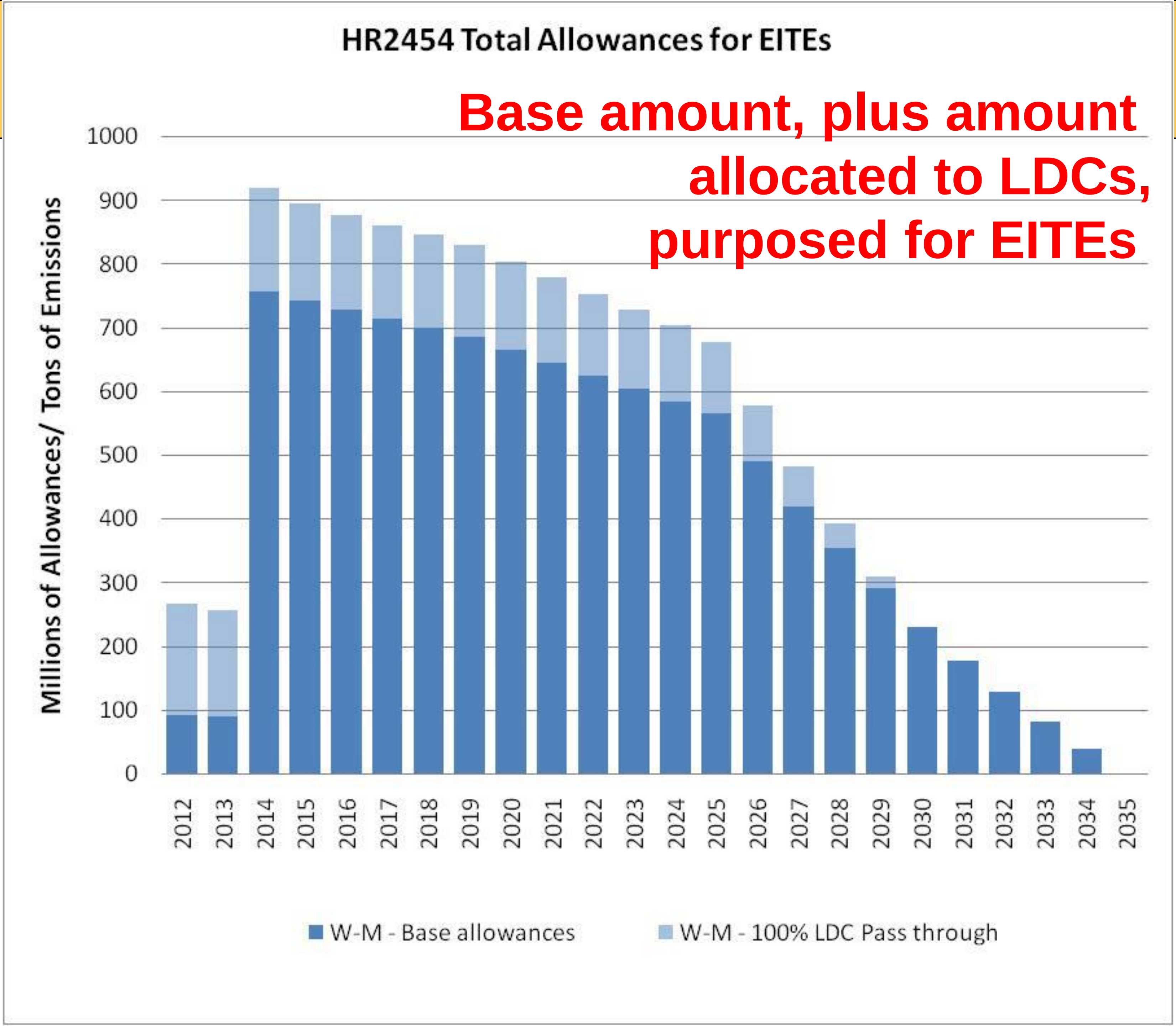
- In HR 2454, sectors defined at 6-digit level of NAICS-code (won't work for benchmarks)
- In Kerry Lieberman, issue is getting more attention
  - EPA is given discretion to define subsectors, accounting for products and intermediate products, CHP (not processes)
  - Coverage under cap is delayed until 2016
- Growing discussion of applying 80-20 rule

However… there has not yet been a lot of attention to this at the Federal Level

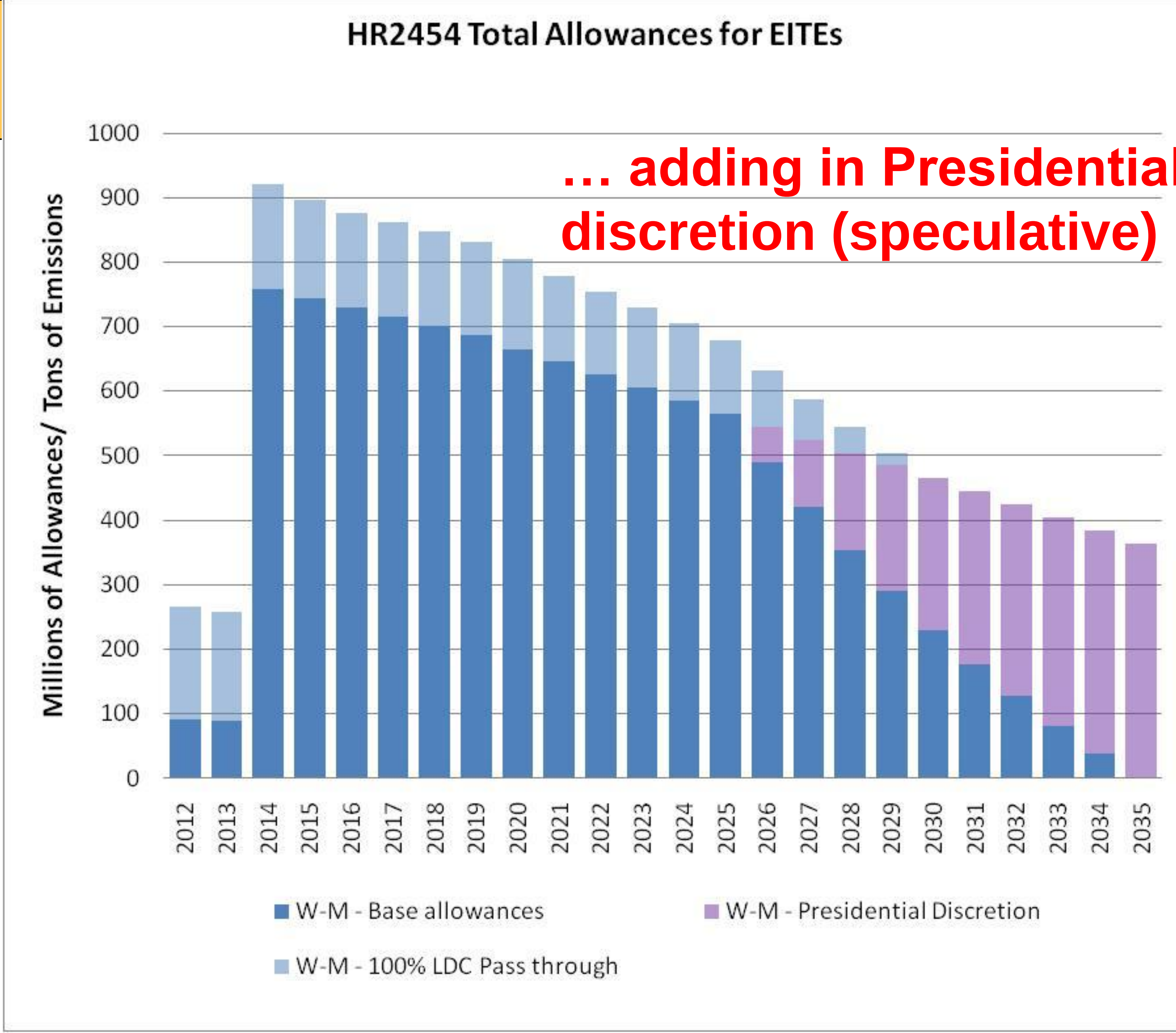
Finally, phase down

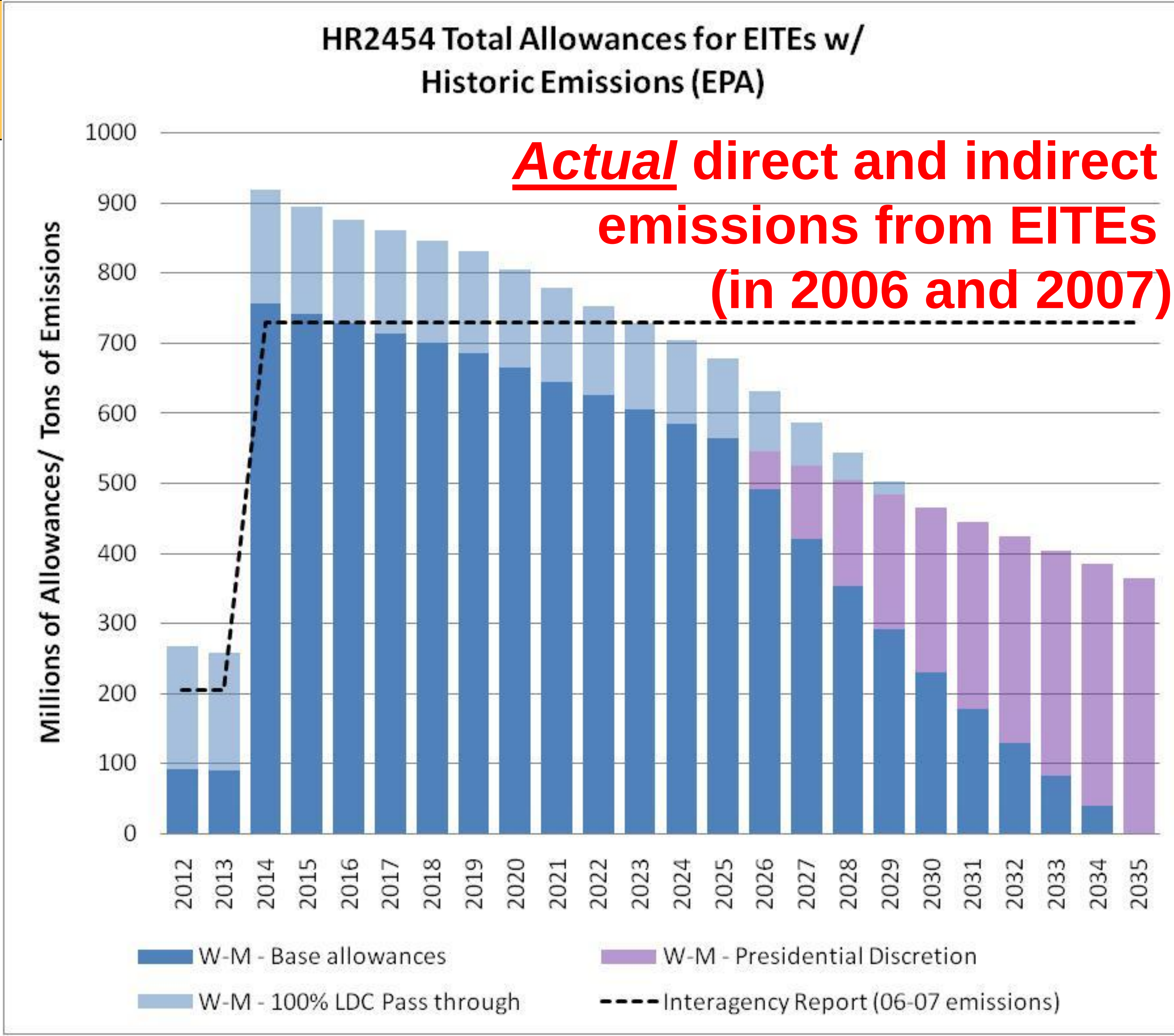
- Recognizing that a harmonized international policy offers the best solution…
- At what point does domestic allowance allocation <u>phase down</u> or get replaced with an alternative policy mechanism?
  - Waxman-Markey (ACES)
    - Allowance pool reduces with the cap
    - Allocations reduced on a pro-rata basis, for any year in which demand exceeds supply
    - After 2025 (though 2035), allowances phase-down for all sectors, <u>unless exposure to leakage persists</u>

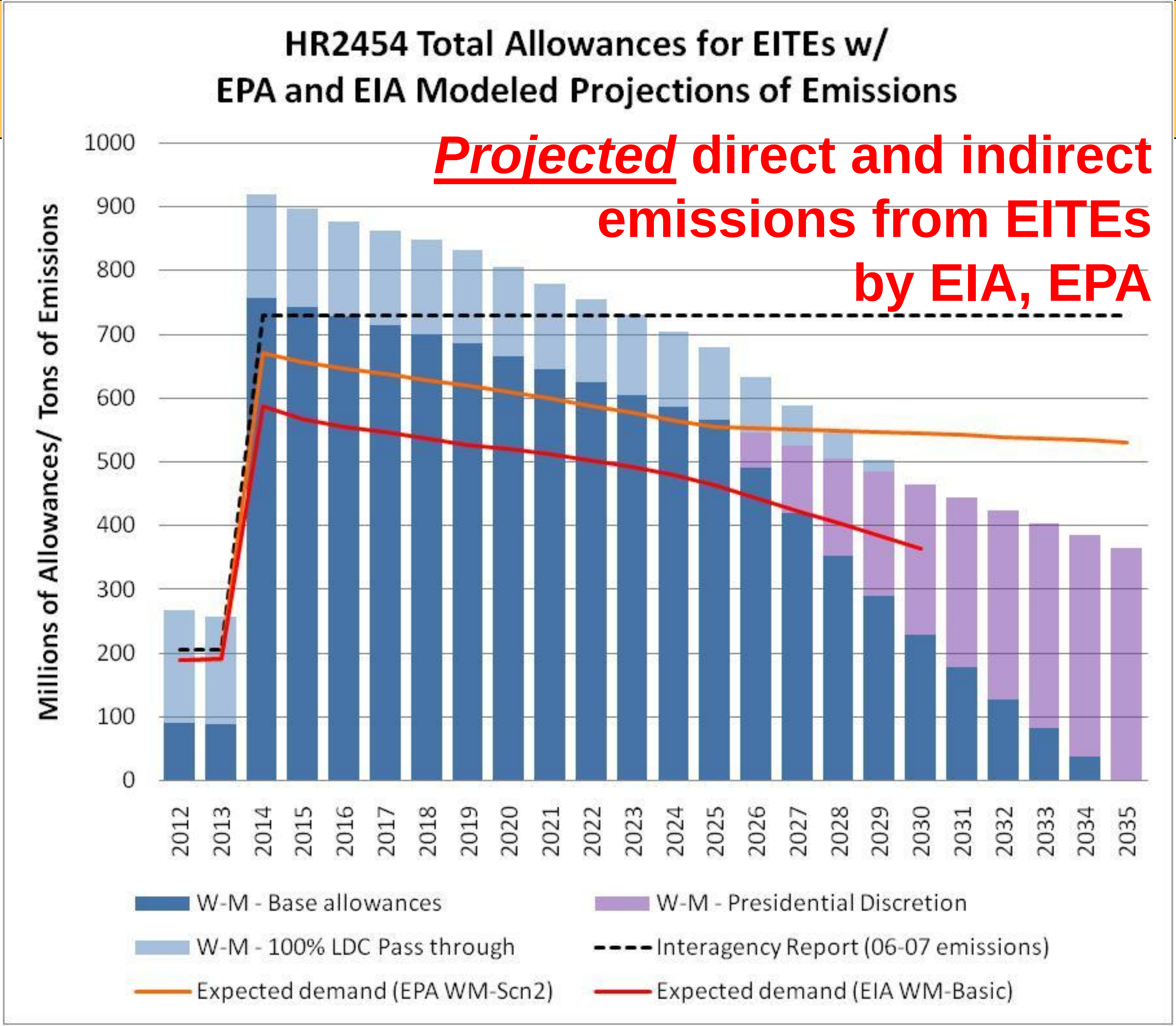

HR2454 Total Allowances for EITEs
Base allowances, for
Output-based rebates
Millions of Allowances/ Tons of Emissions
1000
900
800
700
600
500
400
300
200
100
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
W-M - Base allowances



HR2454 Total Allowances for EITEs
Base amount, plus amount allocated to LDCs, purposed for EITEs
Millions of Allowances/ Tons of Emissions
1000
900
800
700
600
500
400
300
200
100
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
W-M - Base allowances
W-M - 100% LDC Pass through


HR2454 Total Allowances for EITEs
… adding in Presidential discretion (speculative)
Millions of Allowances/ Tons of Emissions
1000
900
800
700
600
500
400
300
200
100
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
W-M - Base allowances
W-M - Presidential Discretion
W-M - 100% LDC Pass through


HR2454 Total Allowances for EITEs w/ Historic Emissions (EPA)
Actual direct and indirect emissions from EITEs (in 2006 and 2007)
Millions of Allowances/ Tons of Emissions
1000
900
800
700
600
500
400
300
200
100
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
W-M - Base allowances
W-M - Presidential Discretion
W-M - 100% LDC Pass through
Interagency Report (06-07 emissions)



HR2454 Total Allowances for EITEs w/
EPA and EIA Modeled Projections of Emissions
Projected direct and indirect
emissions from EITEs
by EIA, EPA
Millions of Allowances/ Tons of Emissions
1000
900
800
700
600
500
400
300
200
100
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
W-M - Base allowances
W-M - Presidential Discretion
W-M - 100% LDC Pass through
Interagency Report (06-07 emissions)
Expected demand (EPA WM-Scn2)
Expected demand (EIA WM-Basic)

Final Comments

- There is growing consensus around output-based allocation to EITEs to address leakage from economy-wide climate policy
- There is a critical unmet need for better data and analysis on how to conduct proper benchmarking, in the US
- In DC, too much focus on eliminating *all costs* for industries, not enough attention to:
  - Policies to improve efficiency of manufacturing through financing capital investments
  - R&D, other transition assistance

Thank you!

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